

## Claims

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A method for monitoring and evaluating the efficacy of a growth factor cancer drug in therapy, said method comprising the steps of

- a) collecting and preparing a sample containing cancer cells from an individual diagnosed for cancer and treated with a growth factor cancer drug,
- b) determining the level of telomerase activity in said sample,
- c) comparing the level of telomerase activity of said sample with the level determined in a sample in said individual before treatment or with a standard level of telomerase activity, and
- d) correlating the level telomerase activity with the therapeutic effect of the growth factor cancer drug.

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The method of claim 1, wherein in step b) the telomerase level is determined by the extension of a nucleic acid substrate from said sample by telomerase and replication of the extended substrate in a primer extension reaction.

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- 3. The method of claim 2, wherein the primer extension reaction is a polymerase chain reaction.

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The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of a receptor from the epidermal growth factor receptor family or an inhibitor of the signaling pathway triggered by the activation of a receptor from the epidermal growth factor receptor family.

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5. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of the epidermal growth factor.
6. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of a receptor from the insulin-like growth factor receptor family or an inhibitor of the signaling pathway triggered by the activation of a receptor from the insulin-like growth factor receptor family.
7. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of the insulin like growth factor.
8. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of a receptor from the platelet-derived growth factor receptor family or an inhibitor of the signaling pathway triggered by the activation of a receptor from the platelet-derived growth factor receptor family.
9. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of the platelet-derived growth factor.
10. The method of any one of claims 1 to 3, wherein the growth factor cancer drug is an inhibitor of a receptor from the neurotrophic factors family or an inhibitor of the signaling pathway triggered by the activation of a receptor from the neurotrophic factors family.
11. The method of any one of claims 4, 6, 8 or 10, wherein the growth factor cancer drug is an inhibitor of a component of a MAP kinase pathway.
12. The method of claim 11, wherein the growth factor cancer drug is a MEK inhibitor.
13. The method of claim 11, wherein the growth factor cancer drug is a src inhibitor.

14. ✓ The use of a method of detecting telomerase activity for monitoring and evaluating the efficacy of a growth factor cancer drug in therapy.
15. The use of claim 14, wherein the telomerase activity detection method is the telomerase extension method.
- 5 16. The use of claim 14 or 15, wherein the telomerase activity detection method is in the form of a kit.

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